



HOE-669

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Jagiella, et al.

Application No.: 10/047,447

Filed: January 14, 2002

Examiner: H. Pham

Art Unit: 2877

For: **SENSOR DEVICE FOR BURR EXAMINATION**

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first-class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA, 22313-1450 on: August 30, 2005.

By: Carol Prentice

Carol Prentice

RESPONSE

Dear Sir:

This Response is responsive to the Office Action mailed on May 4, 2005, for which a petition and fee for a one-month extension of time is being submitted concurrently herewith.

Summary

Claims 50, 52-71, 74-93, 95, 96, and 98 are pending in the application.

The Examiner has rejected Claims 50, 52-57, 61-71, 74-76 and 90-92 under 35 U.S.C. 103(a) as being unpatentable over Ohtomi (U.S. 4,894,597) in view of Fossey (U.S. 5,988,971).

The Examiner has rejected Claims 77-89 under 35 U.S.C. 103(a) as being unpatentable over Ohtomi and Fossey in further view of Matsuura (U.S. 5,243,265).

The Examiner has rejected claims 58-60 under 35 U.S.C. § 103(a) as being unpatentable over Ohtomi and Fossey in further view of Dau (US 4,199,258).

The Examiner has rejected claims 93, 95, 96, and 98 under 35 U.S.C. § 103(a) as being unpatentable over Dau in view of Fossey.

Applicants respectfully traverse the foregoing rejections in view of the comments which follow.

Discussion of Prior Art

The Examiner has rejected Applicants' independent claim 50 in view of the combination of Ohtomi and Fossey. The Examiner relies on Fossey as disclosing a capacitive sensor, and states that Fossey is "from the same field of endeavor". Applicants respectfully submit that Fossey is not from the same field of endeavor as either Applicants' claimed invention or that of Ohtomi.

Fossey is related to a wafer transfer robot used to transfer semiconductor wafers to or from a wafer cassette during the manufacture of integrated circuits and other computer components (Col. 1, lines 5-13). Fossey is far removed from the field of burr examination to which the Applicants' claimed invention is directed. Fossey does not disclose or suggest any type of burr examination device for the examination of burrs on a workpiece. In fact, the word "burr" does not appear in the disclosure of Fossey at all.

The wafer transfer robot of Fossey has a capacitive sensors 61, 62, 63, and 64 carried by a wafer paddle 21 and oriented facing a wafer cassette 17 for sensing a wafer in the cassette 17 and providing a position signal indicative of the presence of the wafer. The sensor 65 of the wafer paddle 21 is used to guide the paddle 21 as it approaches its destination (Col. 1, lines 50-58; Col. 6, lines 15-34; Col. 10, lines 29-33). The sensors of the wafer transfer robot in Fossey are not used for examining the surface of the wafers for burrs. Rather the sensors of the wafer transfer robot of Fossey are used to sense the proximity of the paddle 21 to objects such as the wafer and a destination location.

Further, wafers of the type used in semiconductor circuits typically have very smooth or even polished surfaces. Accordingly, the problems associated with burrs do not exist with such wafers or in the manufacture of integrated circuits.

Fossey does not disclose or remotely suggest a burr examination sensor device as claimed by Applicants. The wafer paddle 21 of Fossey does not act as a detector head which is electromagnetically couplable to a workpiece for scanning the workpiece surface to detect variations in at least one of inductance and capacitance indicative of burrs, as is claimed by Applicants. Since the wafers of Fossey are not metallic, inductive sensors will not electromagnetically couple with such wafers.

As the disclosure of Fossey is far removed from the field of burr examination of a workpiece, there is no motivation for one skilled in the art to combine the disclosure of Fossey with any of the references of record as suggested by the Examiner. Only with hindsight gained impermissibly from Applicants' disclosure could one of ordinary skill in the art arrive at the conclusions reached by the Examiner.

The Examiner has rejected independent claim 93 in view of the combination of Dau and Fossey. As discussed above, Fossey does not disclose or remotely suggest any type of burr examination device, and is far removed from the field of burr examination.

Dau discloses a device for measuring the internal configuration of a tube. The device comprises a non-contacting optical device for measuring the inner diameter and inner cross-sectional profile of a tube (Col. 1, lines 5-9). Dau, like Fossey, is not related to burr examination.

Neither Fossey nor Dau disclose or remotely suggest a detector head having an active surface that is electromagnetically couplable to the workpiece via at least one of inductance or capacitance.

Accordingly, there is no motivation for one skilled in the art to look to either Fossey or Dau when attempting to create a burr detection device. Even if one skilled in the art were somehow motivated to look to the disclosure of Dau and Fossey, they would not arrive at Applicants' claimed invention from a combination of these references, as neither discloses a detector device the electromagnetically couples to the workpiece via capacitance or inductance for scanning the workpiece surface to detect variations in at least one of inductance and

capacitance indicative of burrs, as is claimed by Applicants. Only with hindsight gained impermissibly from Applicants' disclosure could one of ordinary skill in the art arrive at the conclusions reached by the Examiner.

The Examiner has indicated that Applicants' Rule 132 Declaration was sufficient to overcome the rejections based on Ohtomi, Franklin, and Matsuura set forth in the previous Office Action (Office Action, page 6). As neither Fossey nor Dau are directed towards the field of burr examination, Applicants respectfully submit that the Declaration is also sufficient to overcome the rejections based on the combination of Ohtomi and Fossey, and the rejections based on the combination of Dau and Fossey.

As discussed in Applicants' Amendment dated February 22, 2005 and in the Declaration Under 37 C.F.R. § 1.132 submitted therewith, there was a long felt need in the industry for a burr-examination sensor device that allows a non-time-consuming examination of burrs and that also allows quantitative information content about burrs to be inferred. As a result of this long felt need, Applicants conceived of the present invention, which has received substantial recognition in the industry. Additional advantages of the invention are also pointed out in the Rule 132 Declaration, which is incorporated herein and made a part hereof by reference. As can be seen from the Declaration, Applicants' invention solved a difficult problem that was faced by industry. The invention has been warmly received and has received various awards in the industry.

Neither Fossey nor Dau disclose or suggest a solution to the problems addressed by Applicants' claimed invention. If Fossey and/or Dau addressed these problems, there would have been no long-felt need in the art for Applicants' claimed invention, as was established by Applicants' Rule 132 Declaration.

Applicants respectfully submit that the present claims are allowable over the prior art of record, in view of the arguments presented above and the Rule 132 Declaration submitted with Applicants' Amendment of February 22, 2005.

In view of the above, Applicants' respectfully submit that the claimed invention is not rendered obvious by the combination of the Ohtomi and Fossey, by the combination of Dau and

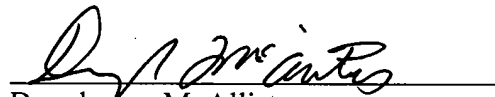
Fossey, or any of the other prior art references of record, taken alone or in combination. The prior art simply fails to teach or suggest a burr detection device as claimed by Applicants.

Further remarks regarding the asserted relationship between Applicants' claims and the prior art are not deemed necessary, in view of the foregoing discussion. Applicants' silence as to any of the Examiner's comments is not indicative of acquiescence to the stated grounds of rejection.

Conclusion

In view of the above, reconsideration and allowance of each of the claims is respectfully requested. If there are any remaining issues that need to be addressed in order to place this application into condition for allowance, the Examiner is requested to telephone Applicant's undersigned attorney.

Respectfully submitted,



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